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## NOTE ON COMET *c* 1914 (NEUJMIN).

The third comet of the year was discovered by NEUJMIN at Simeis on the 27th of June. An orbit based upon Dr. AITKEN'S observations of the 2d, 16th and 30th of July was derived by Mr. C. D. SHANE and the writer. The most interesting thing about the orbit is the great perihelion distance, which amounts to 3.74 astronomical units, i. e. 348 million miles. The comet made this nearest approach to the Sun on July 24th. It is moving in an orbit plane inclined 71° to the plane of the ecliptic.

On account of its great perihelion distance (which is the second largest known) its heliocentric motion is small, so that it will probably be within reach of large telescopes for several months. On this account an ephemeris is given in *Lick Observatory Bulletin* No. 260, extending to the end of this year. Comparison of this ephemeris with an observation made by Dr. AITKEN on the 26th of August shows the following representation: (O–C) $\Delta\alpha = -1^s.9$ and $\Delta\delta = +20''$. At present the comet is moving slowly toward the northeast thru *Ophiuchus*. It will cross the equator in right ascension $17^h\ 32^m$ on the 24th of September. It is nearly four astronomical units distant from the Earth so that it can be seen only with fairly large telescopes. R. T. CRAWFORD.

BERKELEY ASTRONOMICAL DEPARTMENT, September 14, 1914.

## SOME FEATURES OF THE SPECTRA OF IRON AND CHROMIUM IN THE VACUUM ARC.

The arc burning in a partial vacuum is known to give greater sharpness to the spectrum lines in general and greater strength to the enhanced lines, as compared to the arc in air. Other effects due to the altered character of the discharge have been noted in the few investigations made with this source.

The writer has recently arranged a set of fittings for a vacuum arc which may be used when desired in the chamber regularly employed for the electric furnace. The arc electrodes are controlled by hand by means of rods passing thru stuffing boxes in the end of the steel chamber. Preliminary observations have been made with iron and chromium arcs chiefly for the purpose of testing whether the differences observed be-